January 6, 2010 3:50:29 PM

Item ID:

D212-664-101

Accept

Setup Start

Stop

Revision ID:

ille t Date:

Crosstube Fwd Ite:n Name:

| Sequired Date: 28/01/2010

07/01/2010

QC:

Start Qty: 1.00 Reg'd Oty: 1.00

Cust Item ID: **Customer:**

Start

Leference: Approvals:

Date: 10-1-06 Tooling:

Date:

SPC (Y/N):

Date:

Draw

* 1

Rev.

Date:

Stop

Run

Sequence ID/ Work Center ID Operation Description

Set Up/ **Run Hours** Draw Number Plan Code

Accept Qty

Reject Qty

Reject Insp. Number

LL 10/82/04

Stamp

Draw Nbr

Revision Nbr

D212-664-141

Rev D

DOCUMENT CONTROL Memo

0.00

0.00

Document Control

Photocopy bluefile and create lawels as per PPP D212-664-101 CHG003

110

100

Packaging

Pick Kit

Packaging

Memo

0.00

0.00

Packaging

120

CNC Bend 2

CNC Alpha 160 Bender

0.00

BENDING MACHINE - CROSSTUBES

Memo

0.00

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and

Folio FT015

MB 10-01-26

mB 10-01-26

Dart Aeı	ospace	Ltd							t.,
W/O:		All April Ap	W	ORK ORDER CHANGES	S				
DATE	STEP	PRO	PROCEDURE CHANGE			Date	ate Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
				,					
Part No	:	PAR #:	Fault Cate	egory:	NCR: Yes	No DQ	A:	Date:	
		esolution:							
NCR:			WORK ORD	ER NON-CONFORMAN	ICE (NCI	₹)			
DATE	STEP	Description of NC Section A	Corrective Action Section		B Sign Date	& Secti	cation on C	Approval Chief Eng	Approval QC Inspector

Work Order ID 55133

January 6, 2010 3:50:29 PM

Item ID:

D212-664-101

Revision ID: Crosstube Fwd

Item Name:

07/01/2010 Start Date: Required Date: 28/01/2010

Start Oty: 1.00 Reg'd Oty: 1.00

Accept



Setup Start



Stop

Cust Item ID:

Customer:

Reference:

Approvals:

Date:

Date:

Tooling: SPC (Y/N): Date:

Start Run



Stop

Sequence ID/

Work Center ID

130

OC.

Quality Control

Operation Description

Crosstubes

Process Plan:

OC15- Crosstube Dimensional Check

Set Up/ **Run Hours**

Number

Draw

Draw Rev.

Date:

Pian Code

Accept Qty

Reject Reject Qty

Insp. Stamp Number

Memo

0.00

0.00

140

Crosstubes Crosstubes

Memo

0.00

0.00

1-Drill pilot boles in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549

2-Ream hole to finish size in tube as per Dwg D212-664-141using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides onboth cuffs, to ensure alignment with saddle holes.

3-Scribe past # and batch # using vibrating stylus as per Dwg D212-664-141

4-Debum & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

- HWM10-1-27

Dart	Aeros	pace	Ltd
------	--------------	------	-----

W/O: WORK ORDER CHANGES						
STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspector
						i
			,			
;						
	STEP	·				STEP PROCEDURE CHANGE By Date Qty Chief Eng /

Part No:	PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
Resolution:		Disposition:	QA: N/C Closed:	Date:

NCR:			WORK ORDE	ER NON-CONFORMAN	CE (NCR)			
		Description of NC		Corrective Action Section 8	Verification	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspecto
						i		
·								
								-

Work Order ID 55133

Page 3

January 6, 2010 3:50:29 PM

Item ID:

D212-664-101

Accept

Setup Start



Stop

Revision ID:

Crosstube Fwd Item Name:

07/01/2010 Start Date:

Required Date: 28/01/2010

Start Oty: 110

Reg'd Qty: 1.1%

Cust Item ID:

Customer:



Reference:

Approvats:

Process Plan:

Date:

Tooling:

Date:

Run

Start



Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID

150

Operation Description Set Up/ Run Hours Draw Number Draw Plan Rev. Code Accept Qty

Reject Qty

Reject insp. Number Stamp

1 - - A4M10-1-28

HandFXtube

Memo

Crosstabes Chemical Conversion

0.00

0.00

Hand Finishing Crosstubes

Chemical Conversion Coat within 24 hours of bending and drilling

160

QC

Quality Control

OC5-Inspect part completeness to step on W/O

2) Scoloc/29

Memo

170

Outsource2

Outsource process - NDT

Outsource process - NDT per QS1938 4.1

0.00

0.00

Memo

Liquid Penetrant Inspection as per QSI 038

Issue P/O: // 69()

LPI as per ASTM 1487 Level 2

Attach copy of NDT results to work order

Pl 10-2-01

Dart Aerospa	ce Ltd
--------------	--------

	41	WC	ORK ORDER CHANGI	ES				
STEP	PROCEDURE CHANGE			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	:							
	:				***			
:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQ	4 :	Date:	
		Disposition: QA:						
	1	WORK ORD	ER NON-CONFORMA	NCE (NCR)		· · · · · · · · · · · · · · · · · · ·	
STED	Description of NC			cription Sign & S			Approval	Approval
SILF	Section A	COMOTIA					Chief Eng	QC Inspector
	10 de 10		1-					
		:PAR #: Resolution: STEP Description of NC	STEP PROCEDURE CHARACTERS PROCEDURE CHARACTERS PAR #: Fault Cate. Resolution: Disposition WORK ORDI STEP Description of NC Section A Initial	STEP PROCEDURE CHANGE PAR #: Fault Category: Resolution: Disposition: WORK ORDER NON-CONFORMA STEP Description of NC Section A Corrective Action Section Section A Corrective Action Description	PAR #: Fault Category: NCR: Yes Resolution: Disposition: QA: N/C Clo WORK ORDER NON-CONFORMANCE (NCR STEP Description of NC Section A	STEP PROCEDURE CHANGE By Date PAR #: Fault Category: NCR: Yes No DQA Resolution: Disposition: QA: N/C Closed: WORK ORDER NON-CONFORMANCE (NCR) STEP Description of NC Section A Corrective Action Section B Veriffic Section A Section B Sign & Section A Section B Section A Section B Section	STEP PROCEDURE CHANGE By Date Qty	STEP PROCEDURE CHANGE By Date Qty Chief Eng / Prod Mgr :PAR #:Fault Category:NCR: Yes No DQA:Date: Resolution:Disposition:QA: N/C Closed:Date: WORK ORDER NON-CONFORMANCE (NCR) STEP Description of NC Section A Chief Eng / Prod Mgr

January 6, 2010 3:50:29 PM

Item ID:

D212-664-101

Accept

Setup Start

Stop



Run



Revision ID:

Item Name:

Crosstube Fwd

Start Date:

Required Date: 28/01/2010

07/01/2010

Sert Oty: 1.00 | g'd Qty: 1.00



Cust 12 ID: Custower:

Draw

Number

Reference:

Approvals:

Process Plan: ______

Date:

Receive & Inspect for Damage & Mat'i Certs

OC5- Inspect part completeness to step on W/O

Date:

Tooling:

Date:

Draw

Rev.

Plan

Code

Date:

Reject

Qty

Start



Stop

Sequence ID/

Work Center ID

180

Packaging Packaging

Operation Description

Packaging

Set Up/ Run Hours

SPC (Y/N):

0.00

0.00

Ensure copy of NDT results attached to work order.

Reject

Number

190

Memo

Memo

0.00

0.00

Quality Control

Inspect for damage & ensure results are as per Dwg D212-664-141

M 10 02 02 (V

Accept

Qty

Stamp

Dart	Aeros	pace	Ltd
------	--------------	------	-----

W/O:			W	ORK ORDER CHANG	GES							
DATE	STEP	PROCEDURE CHANGE				Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
- 12			- N									
						~		•				
i												
Part No:		PAR #:	Fault Ca	egory:	NCR: Yes	No DQ	A:	Date:				
			on:	QA: N/C Closed: Date:								
NCR:		1	WORK ORI	DER NON-CONFORM	ANCE (NCF	?)						
		Description of NC			tion B	Verific	cation	Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Sect	ion C	Chief Eng	QC Inspector			
								ļ.				
	<u> </u>											

Plan

Code

D212-664-101

Accept

Setup Start



Page 5

Stop



Revision ID:

Item Name: Crosstube Fwd

Required Date: 28/0 2010

Start Date:

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID: **Customer:**

Draw

Number

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Set Up/

Run Hours

Date: Date:

Draw

Rev.

Sequence ID/

Work Center ID

200

SprayPaint

Spray Painting

Operation Description

Spray Painting per QS1005 4.2

SprayPaint

Memo

0.00

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 8:00 Fininsh Time: 9.00

PAINT:

Start Time: 300 Finish Time: 4:00

210

OC14-Inspect Spray Paint

0.00



OC.

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

Start Run



Accept

Qty

Qty

Reject

Reject

Number

Insp. Stamp

W/O:		WORK ORDER CHANGES										
DATE	STEP	PRO	PROCEDURE CHANGE				Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
									*			
,												
Dort No	•	DAD #-	Foult Cata		NCD: Vos	N- DO	<u> </u>	D-4				
			: Fault Category:									
Resolution:							Date: _ 					
NCR:			WORK ORD	ER NON-CONFORM	ANCE (NCF	R)						
DATE	STEP	Description of NC			tion B	Verifi	Verification A		Approval			
DAIL	JILI	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Sect	ion C	Chief Eng	QC Inspector			
								<u></u>				
									·			
							· · · · · · · · · · · · · · · · · · ·					
				•								
	į											

January 6, 2010 3:50:29 PM

Requiad Date: 28/01/2010

Item ID:

D212-664-101

Ascept



Setup Start

Revision ID:

Item Name: Start Late:

Crosstube Fwd

07/01/2010

Start Oty: 1.00

Reg'd Oty: 1.00



Cust Item ID: Customer:

Run

Start



Reference: Approvals:

Process Plan:

Date:

Date:

Tooling: SPC (Y/N):

Date: Date:

Stor



Sequence ID/ Work Center ID Operation Description

Crosstubes

Set Up/ **Run Hours** Draw Number Draw Rev.

Plan Code Accept Oty

Reject Oty

Reject laso. Number Stamp

220

Crosstubes

Crosstubes

Memo

Memo

Memo

0.00

0.00

I- Lightly scuff the bonded area using a 320 grit sand paper and clean the area

with 41058 wash 'n' wipe

2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs A/R 6398 Magnobond Batch: 110417 exp. 01/201

Torque int play 104

230

OC5- Inspect part completeness to step on W/O

0.00

Quality Control

240

Packaging

Pick Kit

0.00

0.00

10-2-4 50

Packaging

W/O:		WORK ORDER CHANGES	WORK ORDER CHANGES									
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto					
		•					,					
		•										
Part No	:	PAR #: Fault Category: N	CR: Yes	No DQ	A:	Date: _	1					

Disposition: ____ QA: N/C Closed: ____ Date: ____

		Description of NO		Corrective Action Section B				
DATE	STEP	Description of NC Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
					-			

Resolution:



January 6, 2010 3:50:29 PM

Item ID:

D212-664-101

Accept

Setup Start



Stop

Revision ID:

Item Name:

Crosstube Fwd

Start Date: 07/01/2010 Required Date: 28/01/2010

Start Qty: 1.00 Reg'd Qty: 1.00

Cust Item ID: Customer:

の大き

Rus

Start

Reference:

Approvals:

Process Plan:

Date: Date:

Tooling:

Date: Date:

Stop

Sequence ID/ **Work Center ID** Operation

Description

Packaging

Set Up/ **Run Hours**

SPC (Y/N):

Draw Draw Number Rev.

Pian Code Accept Qty

Reject Qty

Reject Insp. Stamp Number

250

OC

Memo

OC4-100% Inspect kits for completeness

Quality Control

260

Packaging

Packaging

Memo

0.00

0.00

Identify and pack for shipping as per PPP D212-664-101

270

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memø

0.00

W/O:		WORK ORDER CHANGES	WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
		•								
Part No);	PAR #: Fault Category: N	CR: Ye	s No DQ	A:	Date: _				

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B		Verification	Approval	Approval QC Inspector			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng				
						i					
				•							
NOTE: D	 ate & initial a	Il entries	1				<u>.</u>	1			

Picklist Print

January 6, 2010 3:50:34 PM

Work Order ID: 55133

Parent Item Name:

Parent Item:

Comments:

Item Name

D212-664-101

Crosstube Fwd

Item ID

IPP RevH: as per ECN09-696 09.12.19 DD verified by:EC

Component Item ID/

Replacement Mfg/ Purch

Manufactured

3 Bin ltem Location

No

No

Primary

Last Route Location

Seq ID 110

Loc Orv

Hand Measure Each

Unit of

3.0000

Lor Code

Qty on

1.0000

Start Date: 07/01/2010

Start Q: 1.00

Remissing

Qty 1 Pick

Issued

Status

Required Date: 28/01/2010

Required Qty: 1.00

Date

Issued

D212-664-101TRN Manufactured

Crosstube Turning Detail

Warehouse Location Main Warehouse FG

54284 54409 54502

230

180.5477 4.2105

RUBBER CUSHION

D3595-063-450

Loc Qty Loc Code Warehouse Location Main Warehouse LG 75.5788 75.5788 52447 Main Warehouse ST 104.9689 2 38959 43210 2.59 0.3789 46465 - 53775 100

Each

Page 1

W/O:

W/O:		WORK ORDER CHANGES								
DATE	STEP	PR	OCEDURE CHANGE	В	y Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspector		
Part No	:	PAR #:	Fault Category:	NCR: \	es No D e	QA:	Date: _			
	Resolution	n:	Disposition:	QA: N/	C Closed: _		Date: _			

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B		Verification	Approval	Ammental			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	Approval QC Inspecto			
						,		į			
						-					
								1			
			,								
NOTE: D	ate & initial a	all entries									

January 6, 2010 3:50:34 PM

Work Order ID: 55133

D212-664-101

Crosstube Fwd

Comments:

Parent Item Name:

Parent Item:

IPP RevH: as per EC. 'S2-696 09.11.19 DD verified by:EC

Start Date: 07/01/2010

Required Date: 28/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name

Replacement Item ID

N Præch

Purchased

Primary Item Location Last Location

Route Seq ID

Qt con Unit of Ha 🕸 Measure

Remaining Qty To Pick

Qty Issued Date Status Issued

MS21920-25

No

220

Each

193.0000 4.0000

Clamp(per MIL-DTL-8783C)

Warehouse	Loc Qty	Loc Code	
Location			
Main Warehouse			
ST	193		
107456	2		
108111	3		
108975	17		
109181	42		
109644	10		
111282	4		
111429	1		
112495	14		
112919	25		
113281	25		
113282	50		

W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
	:									
				· .						
		The state of the s			1					
					}					

Part No:		PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
	Resolution:		Disposition:	QA: N/C Closed:	Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B	3	Verification	Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspecto			
	1										
				· • • • • • • • • • • • • • • • • • • •							

January 6, 2010 3:50:34 PM

Work Order ID: 55133

Parent Item:

D212-664-101

Last

Parent Item Name:

Crosstube Fwd

Start Date: 07/01/2010

Required Date: 28/01/2010

Comments:

IPP RevH: gg per ECN09-696 09.11.19 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name

Replacement Item II

Mfg/ Purch Bin Primary Item Location

Route Seq ID Location

Ungoi

Qty on Massure Hand

Remaining Qty To Pick Qty

Issued

Date Issued

Status

D2893-1

Manufactured

No

220

Each

67.0000

2.0000

2.75 Support

Warehouse	<u>Lo</u>	e Qty	Loc Code	
Location				
Main Warehouse				
ST		67		_
25657		6		_
47109		2		
47637		11		_
51775		19		
53125		19		_
53340		10		_
	240	Each	വരവ വ	1 8000

D3428-1

Placard

Manufactured No 240

Each

9.0000

Loc Code

Location Main Warehouse ST096

Warehouse

Loc Oty

W/O:		WORK ORDER CH	WORK ORDER CHANGES									
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector					
						<i>!</i> •						
**		••			,							
Part No	:	PAR #: Fault Category:	NCR: Yes	No DQ	A :	Date:						

Resolution: _____ Disposition: ____ QA: N/C Closed: ____ Date: ____

NCR:			WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B		Verification	A 1	Approval QC Inspector				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng					
	 											
								de de la Companie de				
NOTE: D	ate & initia	al all entries			1	l	<u>l</u>					

Picklist Print											Page 4
January 6, 2010 3:50:34 PM											
Work Order ID: 55133											
Parent Item: D212-664-101											
Parent Item Name: Crosstube Fwd							s	tart Date: 07/01	/2010	Required Date: 2	8/01/2010
Comments: IDP RevH: as per E	ECN09-696 09.1	1.19 DE	verified by:	EC	10 m			Start Qty: 1.00		Required Qty: 1	.00 🚜
Component Item ID/ Replacement Item Name Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Rota , Seq\	Unit of Measure	Qty on Haud	Remaining Qty To Pick	Qty Issued	Date Issued	Stu
AN6-35A	Purchased	No			240	Each	80.0000	4.0000)フマ・	of sf	· ·
			Wareho	use	Lot Q	ty	Loc Code			/	
			Loc	ation							
				arehouse							
			ST			80				_	
				112314		30				-	
				142805 143422		20 30		_		_	
AN6-36A	Purchased	No		113122	240	Each	115.0000	4.0000	0-2-	4	
Bolt			Wareho	nuse	Loc Q)tv	Loc Code				
				ation							

Main Warehouse ST

109632

113121

115

50

W/O:		WORK ORDER	CHANGES	* *			
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
		1·*					* 4800
,		•					t
		•					

Part No:	PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
Resolu	ution.	Disposition:	QA: N/C Closed:	Date:

NCR:			WORK ORDE	ER NON-CONFORMANO	CE (NCR)			
		Description of NC		Corrective Action Section B		Verification	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
								5

January 6, 2010 3:50:34 PM

Work Order ID: 55133

Parent Item:

D212-664-101

Parent Item Name:

Crosstube Fwd

Start Bate: 07/01/2010

Required Date: 28/01/2010

Comments:

IPP RevH: as per ECN09-696 09.11.19 DD verified by: EC

Start Qty: 1.00

Required ty: 1.00

Completed Item ID/

Replacement Mfg/ Item ID Purc

Mfg/ Purck

Bin Primary Item Location Route Seq ID

Unit of Measure

Qty on Hand Remaining Qty
Qty To Pick Issued

ty swed Date: Status

MS21042L6

Purchased

No

240

Each

484.0000 6.0000

10-2-45/

Nut

Warehouse	Loc Qty	Lox Code	
Location			
Main Wanehouse			
ST	484		
105077	22		
110002	5		
111548	8		
111578	400		9
112492	49		

AN960JD616

Purchased

No

240

Each

669.0000 18.0000

10-2-44

Washer

Warehouse	Loc Qtv	Loc Code
Location		
Main Warehouse		
ST	669	
112314	3	
112828	366	
113149	300	

18

W/O:		WORK ORDER CH	IANGES	-11- tas			
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
						!	
				•			
				•,		,,	
					,		
Part No	•	PAR #· Fault Category:	NCD: Voc	No DO	\	Data	1

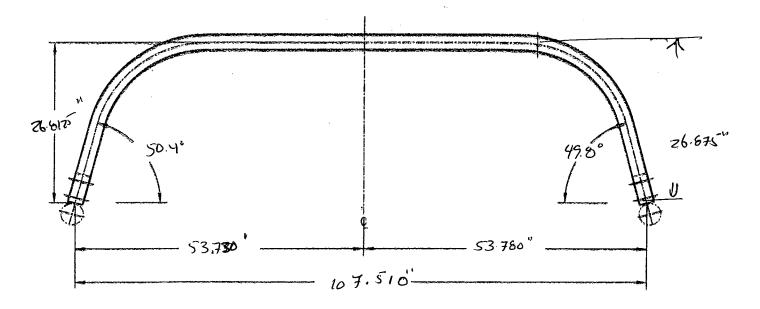
Part No: _		PAR #:	Fault Category:	NCR: \	es No	DQA:	Date:	
	Resolution:		Disposition:	QA: N/	C Close	ed:	Date:	
	***	WC	RK ORDER NON-CO	NEORMANCE (N	ICR)			

NCR:			WORK ORDE	ER NON-CONFORMAN	CE (NCH)			
		Description of NC		Corrective Action Section I	3	Verification	Ammuouol	A
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector
				195 Miles and 196 Miles and 19				
· · · · · · · · · · · · · · · · · · ·								

DART AEROSPACE LTD	Work Order:	55/33
Description: Crosstube High Fwd (20δ/212/412)	Part Number:	D212-664-101
Inspection Dwg: D212-664-141 Rev: 8		Page 1 of 1

E 10.01-26

R	equired Bimension	Min	Max
m 2.5	Height	26.79	27.05
A. C. Strawn	1/2 Span	53.59	53.85
	Angle	49	52
	Total Span	107.18	107.7



460		Comments	
we hallow			
330000	•		
L			
	QC15 Inspection	15,,	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	K1\1W	A
8	07.05.31	Dimensions updated per Dwg Rev C	KJ/JM OK	fam
*****			(1)	

Dart	Aeros	pace	Ltd
------	--------------	------	-----

W/O:	•		WO	RK ORDER CHANG	ES			, <u>, ,</u> , ,
DATE	STEP	PROCEDURE CHANGE				Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
								
								. (
Part No:		PAR #:	Fault Categ	ory:	NCR: Yes	No DQA:	Date:	
	^ Re	solution:	Disposition	:	QA: N/C CI	osed:	Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCF	?)		
DATE	STEP	Description of NC			tion B	Verification	Approval	Approval
DAIL	JILI	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
•		<u> </u>						<u> </u>
i.								
			- -					



Hene	Qty -141	-141B	Pært Number	Description
1	R		20212-6i - w 1	CROSSTUBE ASSEMBLY (205/212/4/2 #9/6/H FWID)
2		3 K	©€\$2-6(₹841B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	4	706005-123	CROSSTUBE
4	2	22	102893-1	SUPPORT
5	4.	4,	103595-063-450	RUBBER CUSHION
€	4	4	₩S21920-2€	CLAMP (OR MS21920-26)
Ŧ	A/R	AVR	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRONIDELL SPEC. 299-047-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL MOTTES:

1) MAYERIAL: MANUFACTURED FROM D6005-128 FINISHED LENGTH = 126.514±0.020

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

PAINT OUTSIDE PER DART QS1005 4.2

3) TOLERANCES ARE PERIDART OSI 018 UNLESS OTHERWISE MOTED

- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIERATING STYLUS
- WEIGHT: 0212-864-141 = 33.6 lbs (PER IIN-0212-864)
 - D2124664-1416 = 33.6 lbs (PER IIN-0212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUSE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRICE TO PACKAGING.
- 13) INSTALL MISZ 1920-25 CLAMPS (OR -26) WITH D3595-063-450 RUE BER CUSHIONS TO SECURE THE 02893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL CRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 30 TO 403 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

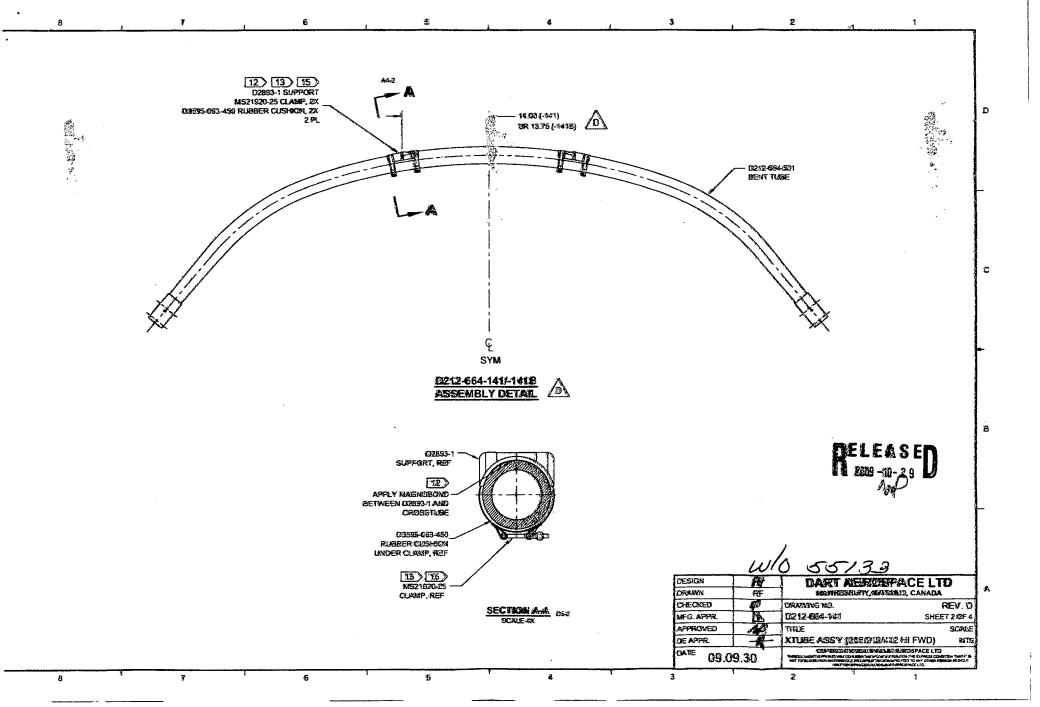


SHOP COPY RETURN TO **ENGINEERING** UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER

6	REORG TO CUR REMOVI & S6-3);	ANZED VIEW RENT STANE ED REF & AZ RELOCATED TURNING DE	MISE GENERAL MOTEENPART LEST; WHEN'S AND REFORMATED BRAWING TRINONADE; ADD -14-19; [21 84-2, 04-2); 4 ADD TOLERRINGES (2N 84-3, 08-3, 08-3) ATED PLAG AS PER PARTICIONS (2N 85-9); AG DETAIL & UPRATTED TOLERRINGE TS					
С	1		STATE OLIVANE CHORENIA PH G7.03.02					
8	M COA	OLIES FOR 101 JOSES	PM	05.02.04				
A	MEM REDIE				600.12.12			
REV.		BESCRIPTION .			DATE			
DESIGN	i	At the	DART AFROSP	ME	LTD			
DRAWN		RF	MANUSCONIES CONTRACT	D. DAR	DDA			
CHECK	320	47	DRAWING WO.		REV. D			
MFG. #9	PERFO	34	0212-694-361	5	meet 1 of 4 }			
APPRO	MED	140	THREE		SOALE			
DEAPP	R		XTURE ASSY (PES/DIE/412	H! PM	D) 1845]			
OATE 09.09.30			GEO PRINCIPAT AND CONTROL CONTROL OF A CONTR					

W/O:			WORK ORDER CHANGES							
DATE	STEP		PROCEDURE CHANGE		Ву	y Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
			,							
			•							
Part No) :	PAR #: _	Fault Category:		NCR: Yes	No DQ	A :	_ Date: _		
	1	Resolution:	Disposition:		QA: N/C (Closed:		Date: _		

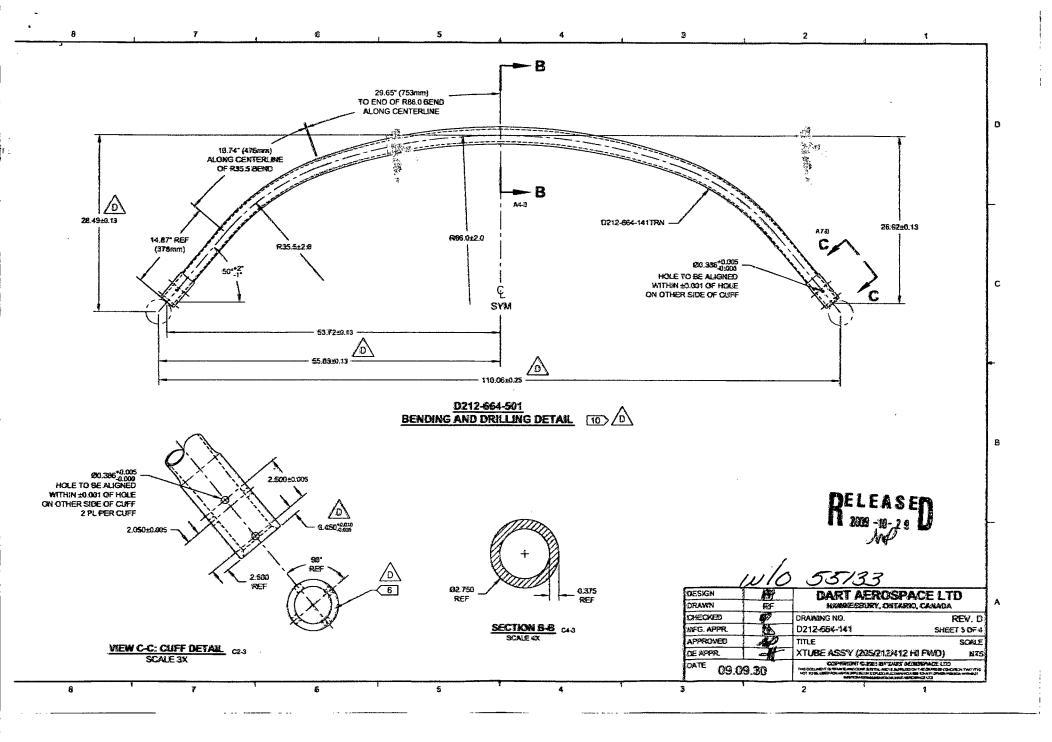
NCR: WORK ORDER NON-CONFORMANCE (NCR)							
	Description of NC		Corrective Action Section B		Varification	Annroval	Approval QC Inspector
SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
	STEP	STEP Description of NC	STEP Description of NC Section A Initial	STEP Description of NC Section A Corrective Action Section B Initial Action Description	STEP Description of NC Section A Initial Action Description Sign &	STEP Description of NC Section A Initial Action Description Sign & Verification Section C	STEP Description of NC Section A Initial Action Description Sign & Verification Section C Chief Eng



W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE				Approval Chief Eng / Prod Mgr	Approval QC Inspector	
			-					

Part No:	PAR #: Fault Category:	NCR: Yes No DQA:	Date:
Resolution:	Disposition:	QA: N/C Closed:	Date:

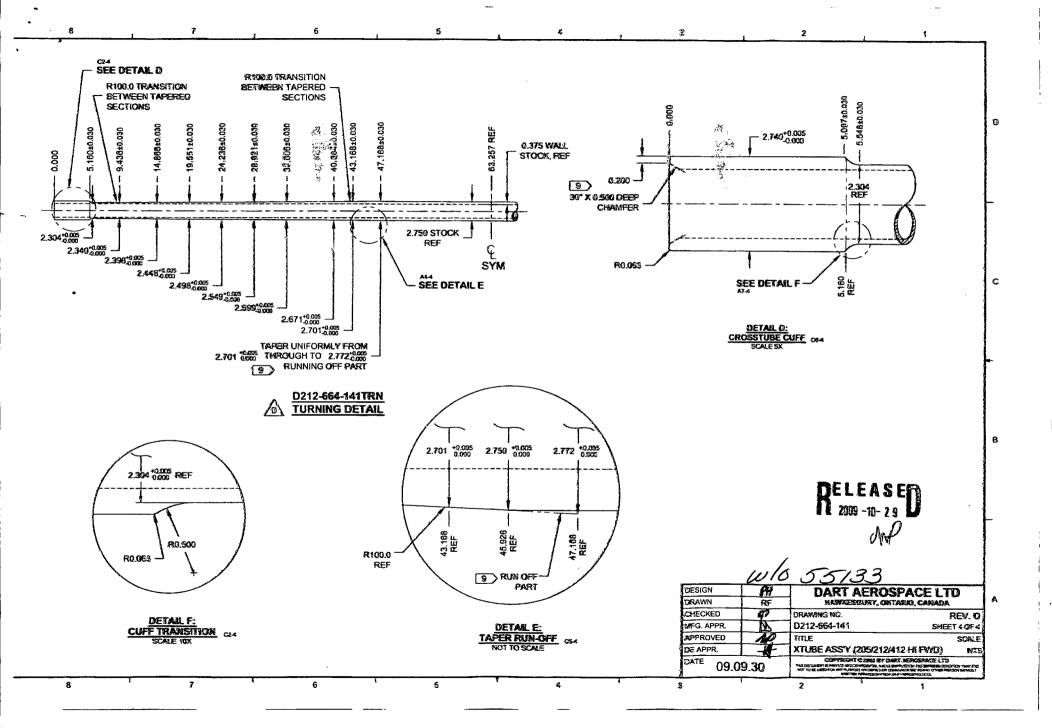
NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
D.4	0	Description of NC		Corrective Action Section B		Verification	Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspecto			
	:						:				



W/O:		WORK ORDER CHA	ANGES					
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
-			*					
						e.		

Part No:		PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:
F	Resolution:		Disposition:	QA: N/C Closed	•	Date:

WORK ORDER NON-CONFORMANCE (NCR) Corrective Action Section B					
ication App	nroval Approval				
	proval Approval QC Inspector				
	}				



W/O:		WORK ORDER CI	WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
				•				
					-			
Part No	:	PAR #: Fault Category:	NCR: Yes	No DQ	A:	Date:		

Part No: _	PAR #:	Fault Category:	NCR: Yes No DQA:	_ Date:
	Resolution:	Disposition:	QA: N/C Closed:	Date:
NCR:		WORK ORDER NON-CONFO	RMANCE (NCR)	
	Description of NO	Corrective Action	Section B	

		ED Description of NC		Corrective Action Section B				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
	}							
	į							
				3 27				



LIQUID PENETRANT TEST REPORT

P- 15316

	,					
CLIENT	DAT LEWSPACE		_		PAGE	OF
ATTENTION	LINDA		DATE	FEB 1-2010	TIME	AM 🗹 PM
ADDRESS	1270 ABELDEEN ST		_ ACUREN JOB NO.	183-10	- 06 5	
	LANKES BUTY ON.		_ PO/WO No.	11290 -		
/2			_ WORK LOCATION	Hankes.	RU	
PROJECT -	KGH IK7		_ ACCEPTANCE STD	ASTU IVI	OLAY -	-
ITEM(S) EXAMINED	F.	PI	on cros			TE _2007
TILIN(3) EXAMINED	(12) 8	LEEUE'S		s ruses	(w)	
JOB DESCRIPTION	PROCEDURE NO. LT.					
PARTNO ST	PROCEDURE NO. LTE	REV./DATE		ECHNIQUE NO. LTTELH	2 REV./DAT	TF.
SCOPE	PINLESS STEEL		MATERIA A			
	WET FLOORESCENT	LIQUIL	1 10057	ANT TICPE	THORNESS _	
	callies ar	T 100	% EXTE	100AL	-1100	
TEST DETAILS			100			
METHOD FAMILY BRAND	FLUORESCENT	VISIBLE	WATER WASH	7.0		
PENETRANT 2/	LUCENA PLU-X		BLACK LIGHT S/N	☐ SOLVENT RE	3	☐ Post Emulsif
PENETRANT REMOVER	H 20 MINIMUM DWELL TIME		LIGHTING EQUIP.	FLASHLIGHT TROUBLELIN	DU μ W/CM²	AMBIENT < 2 fc
DEVELOPER 54	D S3 MINIMUM DWELL TIME	>10 Min.		<u> </u>	3h1 2 001P	01>100 fc @ SURF.
DEVELOPER TYPE	NON AQUEOUS AQUEOUS	10 Min. □ DRY	LIGHT METER S/N	1078866	CAL DUE	DATE HUT 7-2
EST SURFACE						10(1)
SURFACE CONDITION SURFACE TEMPERATURE	☐ As GROUND ☐ As WEL	DED	☐ MACHINED	D. Cupt D.		
RESULTS-	(METRIC IMPERIAL)	20°F TO 10°C/50°F		☐ SHOT BLASTED ☐ 10°C/50°F TO 52°C/12	CL CL	EAN BARE METAL 52°C/125°F
1 - Coss 76	E'S - WW. 55638		1 -			
1 Cless T	BE-41,0,55133	\(\tau \)	REDOZT L	ins Expansions	DON T	FIRSL F
1 Cless to 1 Cless T 20 Collection 1 Mariet	16E-W.O. 551 33	١	REBIT L	S STANDAN	Acce	PISLE
1 Cless to 1 Cless T 20 Collection 1 Mariet	E 1354 CRAWLUN, 53635	١	REBIT L	UELE FOUND	Acce	PISLE
1 Cless To Collections To Change To Collections To Change To Collections To Change To	18E-W.O. 551 33 18E-W.O. 55-404 E 1354 CRAWADO, 53635 - W.O. 55097 18E-W.O. 55433 18E-W.O. 55434	3313	REDOLT I	SEE FOUND	Acce	PISLE
1 Class To 1 Class To 2 Collection 1 Mariot 1 Class To 1 Class To 1 Class To 1 Class To	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		REDOLT I	SEE FOUNDAZO	Acces.	PISLE
1 Cliss To Collision 1 May 1 1 Cless To Collision 1 Cless To Cless To Cless To	to perform services extends only to those services provided expressions of upinion reflect the aninious or absorption systems of upinion reflect the aninious or absorption	(for in writing. Under no	Circumstances shall such ser	SEE FOUNT	Acce.	PISLE
Cless (1) Collective Mary 1 Cless 7	to perform services extends only to those services provided expressions of opinion reflect the opinions or observations of Acturen Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. In one even what Actures Group Inc. In one even what Inc. In our In our In our Inc. In our Inc. In our Inc. In our In o	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such served on information and assumptive of operator reasons complete servers.	SEE Fairly S TAIDAN 10 UZ ices extend beyond the performance of consumplified by the owner/inperator at a common title for the owner/inperator at a commo	the requested service and are not intended to	es. It is expressly undersulter can they be construed.
Cless (1) Collective Mary 1 Cless 7	to perform services extends only to those services provided expressions of opinion reflect the opinions or observations of Acturen Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. In one even what Actures Group Inc. In one even what Inc. In our In our In our Inc. In our Inc. In our Inc. In our In o	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such served on information and assumptive of operator reasons complete servers.	SEE Fairly S TAIDAN 10 UZ ices extend beyond the performance of consumplified by the owner/inperator at a common title for the owner/inperator at a commo	the requested service and are not intended to	es. It is expressly undersulter can they be construed.
Cless (1) Collective Mary 1 Cless 7	to perform services extends only to those services provided expressions of upinion reflect the aninious or absorption systems of upinion reflect the aninious or absorption	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such served on information and assumptive of operator reasons complete servers.	SEE Fairly S TAIDAN 10 UZ ices extend beyond the performance of consumplified by the owner/inperator at a common title for the owner/inperator at a commo	the requested service and are not intended to	es. It is expressly undersul
Cless (1) Collective Mary 1 Cless 7	to perform services extends only to those services provided expressions of opinion reflect the opinions or observations of Group Inc. is not assuming any responsibilities of the own Acturen Group Inc. in no even shall Acturen Group Inc.'s Acturen Group Inc. uses the degree, care and skill ordinarily in Group Inc.	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such served on information and assumptive of operator reasons complete servers.	SEE Fairly S TAIDAN 10 UZ ices extend beyond the performance of consumplified by the owner/inperator at a common title for the owner/inperator at a commo	the requested service and are not intended to	es. It is expressly undersul
CCSS TO CCLSS TO CCSS TO CCS	to perform services extends only to those services provided spressions of opinion reflect the opinions or observations of Acturen Group Inc. is not assuming any responsibilities of the ow Acturen Group Inc. uses the degree, care and skill ordinarily or Group Inc.	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such serry d on information and assumpt erroperator retains complete to errope steperator bearing complete to errope steperator by others perfor invumstances by others perfor the steperator of the steperator than the steperator of the steperator than the steperator	SEE Fairly S TAIDAN 10 UZ ices extend beyond the performance of consumplified by the owner/inperator at a common title for the owner/inperator at a commo	the requested service and are not intended a diffecture, repair and it items and items and items are not intended a diffecture.	es. It is expressly undersular can they be construed a use decisions as a result of er warranty, expressed or
Pe of Services agreement of Acuren Group Inc. Class To Cl	to perform services extends only to those services provided expressions of opinion reflect the opinions or observations of Acturen Group Inc. is not assuming any responsibilities of the new Acturen Group Inc. is set the degree, care and skill ordinarily in Group Inc.	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such served on information and assumptive of operator reasons complete servers.	ices extend beyond the performance of ions supplied by the owner/aperator a esponsibility for the engineering, many ced the amount paid for such services, orning such services in the same or simulations.	the requested service and are not intended to	es. It is expressly understood or can they be construed or
CCSS TO CCLSS TO CCSS TO CCS	to perform services extends only to those services provided expressions of opinion reflect the opinions or observations of a Group Inc. is not assuming any responsibilities of the new Acuren Group Inc. in no even shall Acuren Group Inc.'s acuren Group Inc. uses the degree, care and skill ordinarily in Group Inc. **Mathematical Control of the New Acuren Group Inc. is acuren Group Inc. was the degree, care and skill ordinarily in Group Inc. **Mathematical Control of Co	for in writing. Under no if Acuren Group Inc. bases ner/operator and the own	circumstances shall such serry d on information and assumpt erroperator retains complete to errope steperator bearing complete to errope steperator by others perfor invumstances by others perfor the steperator of the steperator than the steperator of the steperator than the steperator	ices extend beyond the performance of tons supplied by the owner/operator of expossibility for the engineering, many ed the amount paid for such services.	the requested service and are not intended a diffecture, repair and it items and items and items are not intended a diffecture.	es. It is expressly understoo tor can they be construed a use decisions as a result of er warranty, expressed or
Pe of Services agreement of Acuren Group Inc. Class To Cl	to perform services extends only to those services provided expressions of opinion reflect the opinions or observations of Acturen Group Inc. is not assuming any responsibilities of the new Acturen Group Inc. is set the degree, care and skill ordinarily in Group Inc.	for in writing. Under no of seuren Group Inc. bases mer/operator and the own liability in respect of the steerested under similar of exercised under similar of the steerested under similar o	circumstances shall such serry d on information and assumpt erroperator retains complete to errope steperator bearing complete to errope steperator by others perfor invumstances by others perfor the steperator of the steperator than the steperator of the steperator than the steperator	ices extend beyond the performance of times supplied by the owner/operator at exponsibility for the engineering, many end the amount paid for such services. If the same or simulation of the same or simulation of the amount paid for such services. If the same or simulation of the same or simulation of the same of the same or simulation of the same of the same or simulation of the same or simulation of the same of the same or simulation of the same or simulation of the same of the same or simulation of the same of th	the requested service and are not intended a diffecture, repair and it items and it items and it items and it items. No other	es. It is expressly understo for can they be construed a use decisions as a result of er warranty, expressed or